

Status of the EVM/RCN Project

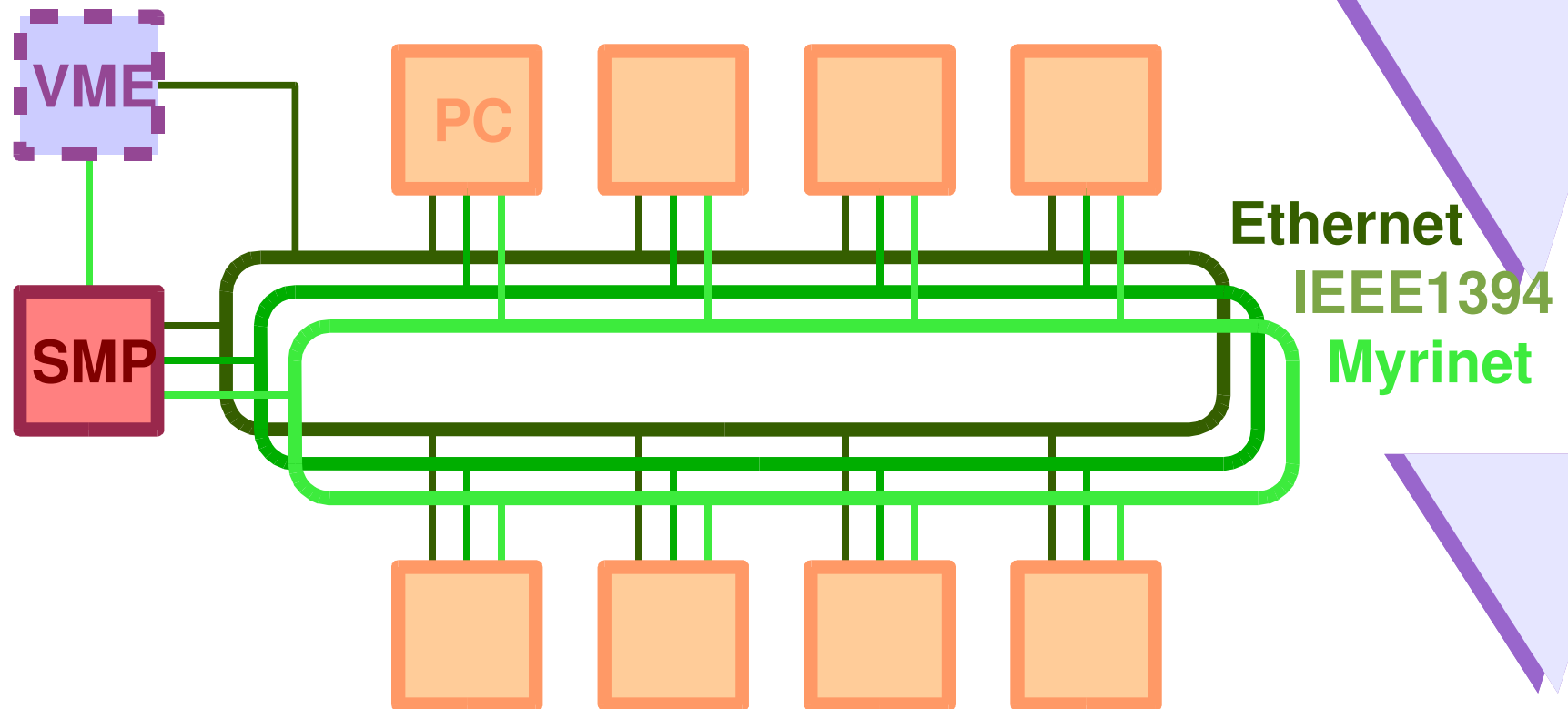
S. Aziz, M. Litmaath, V. O'Dell,
S. Pavlon, K. Sumorok, I. Suzuki

Fermi National Accelerator Laboratory, USA
Massachusetts Institute of Technology, USA

2002/04/17 CPT Week/TriDAS

The FNAL EVM Test Bench

- 9PCs + 1VME-CPU, Myrinet, IEEE1394 and FastEthernet
- Typical configuration: 4x4+1 DAQ + dummy GTP



Dummy GTP in the test stand (M.L)

- We need a dummy Global Trigger Processor (GTP) to have a complete test bench for the EVM/RCN
- Setup 1
 - ➔ PIII PC w/ Linux
 - ➔ LANai7 PCI I/F (LAN connector)
- Setup 2
 - ➔ VME-CPU board (MVME-2304) w/ VxWorks
 - ➔ LANai9 PMC I/F (SAN connector)
- Software implementation and simple benchmark test will take place this summer.

XDAQ control program (S.A., I.S.)

- For massive benchmark tests, we need a CUI based control program.
- With pre-1.0 XDAQ releases, modified jxdaq + perl/ruby configuration generators were used.
- For the XDAQ 1.0, JAVA configuration and control library and a simple control program were developed.
 - ➔ Easier to maintain. Compatible with XDAQ XML file and independent of jxdaq implementation.
 - ➔ Easier to use. Single JAVA code can manage whole benchmark tests.

RCN in the XDAQ V1.0 (I.S.)

- Working only on Ethernet, now.
- Reliable broadcast library was developed. (2001 Sep)
- Peer-Transport for the library was implemented (2001 Dec) and re-implemented for V1.0 (2002 Mar)
- RCN messaging part is being debugged now.
- We expect to run XDAQ+RCN soon.

Future Work

- Installation of the dummy GTP and benchmark tests. (- Aug. 2002)
- Finishing up the RCN implementation of the XDAQ. (Apr. 2002)
- XDAQ w/ Myrinet barrel shifter (May. - Aug. 2002)
- TDR chap.5 (Jun. 2002)
- Benchmark tests
 - ➔ XDAQ + RCN
 - ➔ XDAQ + RCN + BS
 - ➔ XDAQ + Myrinet RCN
- Integration with the CERN demonstrator (??? 2002)

Previous Milestones

- RCN integration into the XDAQ [~~2001 Q4~~ 2002 Q2]
- EVM/RCN integration into the vertical demonstrator [2002 Q1?]
 - ➔ CERN: Integration of other components ? [2002 ??]
- EVM/RCN integration into the switch demonstrator [2002 ??]
 - ➔ CERN: Barrel shifter in the XDAQ ?[2002 ??]
- EVM study with XDAQ+RCN [~~2002 Q2~~ 2002 Q3]
 - ➔ Linux vs. RT-Linux
 - ➔ RM+BM on a PC vs. VME RM